

**Abstract of the Invention**

The present invention relates to a method for detecting *Mycoplasma* and its related strains which are source of contamination of cell lines and biological products and human pathogenic. More particularly, the present invention relates to genus-specific and species-specific oligonucleotides for genotyping of *Mycoplasma*, *Acholeplasm* and *Ureaplasma* strains, microarray comprising the oligonucleotides, and method for detection of species using the microarray.

As described above, the present invention provides a rapid and accurate assay method capable of simultaneously detecting many *Mycoplasma* and its related strains from a single sample using a microarray comprising novel oligonucleotides for detecting *Mycoplasma* and its related strains which are known as a source of contamination of cell lines and biological products and human pathogenic. Further, the present invention provides an objective and credible assay method capable of tracing a contamination source for preventing expansion of infective *Mycoplasma* and its related strains and controlling a contamination of *Mycoplasma* against biological products and stem cells or cord blood cells which are useful for gene therapy and cell therapy.

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